

Appl. No. 10/650,504
Amtd. Dated December 20, 2005
Reply to Office Action of September 26, 2005

Attorney Docket No. 81872.0052
Customer No.: 26021

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended): A dry etching apparatus, comprising:
a chamber;
~~a tray provided inside said chamber;~~
~~a substrate to be etched, placed inside said chamber on a substrate placing surface of said tray; and~~
a plate provided with a number of opening portions and prepared to cover said substrate to be etched,
wherein said plate is arranged in such a manner that, while covering said substrate to be etched, a distance between a surface opposing said substrate to be etched and said substrate to be etched in a peripheral portion is shorter than a distance between the surface opposing said substrate to be etched and said substrate to be etched in a central portion.
2. (Original): The dry etching apparatus according to claim 1, wherein the surface of said plate opposing said substrate to be etched forms a concave or nearly concave plane as a whole.
3. (Original): The dry etching apparatus according to claim 2, wherein the surface of said plate opposing said substrate to be etched forms a step-like structure.
4. (Original): The dry etching apparatus according to claim 3, wherein chamfering is applied to a step portion in the step-like structure.

5. (Original): The dry etching apparatus according to claim 2, wherein a thickness of said plate is thicker in the peripheral portion than in the central portion.

6. (Currently Amended): The dry etching apparatus according to claim 1, further comprising a tray provided inside said chamber for placing said substrate to be etched on a substrate-placing surface thereof; wherein the substrate-placing surface of said tray forms a concave or nearly concave plane as a whole.

7. (Original): The dry etching apparatus according to claim 6, wherein the substrate-placing surface of said tray forms a step-like structure.

8. (Original): The dry etching apparatus according to claim 7, wherein chamfering is applied to a step portion in the step-like structure.

9. (Original): The dry etching apparatus according to claim 6, wherein a thickness of said tray is thicker in a peripheral portion than in a central portion.

10. (Original): The dry etching apparatus according to claim 1, wherein a distance between said plate and said substrate is 5 to 30 mm.

11. (Original): The dry etching apparatus according to claim 1, wherein said plate is made of metal.

12. (Original): The dry etching apparatus according to claim 11, wherein said plate is made of aluminum.

13. (Currently Amended): A dry etching method for etching a surface of a substrate to be etched, said method comprising:

placing a substrate to be etched ~~on a substrate placing surface of a tray provided~~ inside a chamber; and

covering said substrate to be etched with a plate provided with a number of opening portions,

wherein a distance between a surface opposing said substrate to be etched and said substrate to be etched in a peripheral portion of said plate is set shorter than a distance between the surface opposing said substrate to be etched and said substrate to be etched in a central portion of said plate.

14. (Original): The dry etching method according to claim 13, wherein said dry etching method is a reactive ion etching method.

15. (Currently Amended): A plate used in a dry etching apparatus to cover a substrate to be etched, placed ~~on a substrate placing surface of a tray provided~~ inside a chamber, said plate having:

a number of opening portions; and

a surface opposing said substrate to be etched and being shaped into a concave or nearly concave plane as a whole.

16. (Original): A tray used for a dry etching apparatus and provided inside a chamber so that a substrate to be etched is placed thereon while said substrate to be etched is covered with a plate, said tray having:

a substrate-placing surface shaped into a concave or nearly concave plane as a whole.

17. (Currently Amended): A dry etching apparatus, comprising:
a chamber;
~~a tray provided inside said chamber;~~
a substrate to be etched, placed inside said chamber ~~on a substrate-placing surface of said tray~~; and
a plate provided with a number of opening portions and prepared to cover said substrate to be etched,
wherein said plate is provided with a protruding wall on a surface opposing said substrate to be etched and said protruding wall is separated from a nearest surface of said substrate by a gap.

18. (Original): The dry etching apparatus according to claim 17, wherein said protruding wall is formed in a shape of a cross when said plate is viewed in a plane.

19. (Currently Amended): The dry etching apparatus according to claim 17, further comprising a tray provided inside said chamber for placing said substrate to be etched on a substrate-placing surface thereof; wherein said protruding wall abuts on the substrate-placing surface of said tray.

20. (Currently Amended): A dry etching method etching a surface of a substrate to be etched, said method comprising:

placing a substrate to be etched ~~on a substrate placing surface of a tray provided inside a chamber; and~~

covering said substrate to be etched with a plate provided with a number of opening portions,

wherein a protruding wall is provided to said plate on a surface opposing said substrate to be etched and said protruding wall is separated from a nearest surface of said substrate by a gap.

21. (Original): The dry etching method according to claim 20, wherein said dry etching method is a reactive ion etching method.

22. (Currently Amended): A plate used in a dry etching apparatus to cover a substrate to be etched, placed ~~on a substrate placing surface of a tray provided inside a chamber, said plate having:~~

a number of opening portions; and

a protruding wall formed at least in a peripheral portion of a surface opposing said substrate to be etched such that said protruding wall is separated from a nearest surface of said substrate by a gap.

23. (New): The dry etching apparatus according to Claim 17, wherein said protruding wall abuts on an electrode.